

**AMENDMENTS TO THE CLAIMS**

**This listing of claims will replace all prior versions and listings of claims in the application:**

**LISTING OF CLAIMS:**

1. (currently amended): A digital signal processor (~~DSP~~) to execute at least one dedicated operation of a dedicated system (~~DFE XDSL~~), characterized in that said digital signal processor is a flexible digital signal processor and comprises ~~therefor~~:

an arithmetic logical unit (~~ALU~~) that comprises a plurality of inputs (~~IN~~) to receive input data (~~DATA IN~~); and a predefined interconnected plurality of basic operators (~~OP1, OP2, OP3, OP4, OP5, OP6, OP7~~) coupled to said plurality of inputs (~~IN~~) for execution of a respective basic operation on said received input data (~~DATA IN~~); and a plurality of control inputs (~~IN CTRL~~) coupled between said predefined plurality of basic operators (~~OP1, OP2, OP3, OP4, OP5, OP6, OP7~~) and a program controller (~~CTRL~~); and

said program controller (~~CTRL~~) to activate via said plurality of control inputs (~~IN CTRL~~), for at least one phase of a control program of said program controller (~~CTRL~~) and under control of an actual phase of said at least one phase, one or more basic operators (~~OP1, OP2, OP3, OP6~~) of said plurality of basic operators (~~OP1, OP2, OP3, OP4, OP5, OP6, OP7~~) and to enable thereby said one or more basic operators (~~OP1, OP2, OP3, OP6~~) to execute its respective basic operation and to realize therewith at least part of a dedicated operation of said dedicated system (~~DFE XDSL~~); and

said arithmetic logical unit (~~ALU~~) further comprises a plurality of outputs (~~OUT~~) to receive, upon realization of each phase of said at least one phase of said control program, an output data (~~DATA-OUT~~) whereby said output data (~~DATA-OUT~~) represent a result of said execution of said at least one dedicated operation of said dedicated system (~~DFE-XDSL~~).

2. (currently amended): The flexible digital signal processor (~~DSP~~) according to claim 1, characterized in that said program controller comprises a start input to control a start of an execution of said control program and a finish output to sign a finishing of said control program and further characterized in that a phase of control program comprises a set of instructions being designed in accordance to a desired said at least one dedicated operation.

3. (currently amended): The flexible digital signal processor (~~DSP~~) according to claim 1, characterized in that said dedicated system is a digital front-end system (~~DFE-XDSL~~) of any digital subscriber line system.

4. (currently amended): The flexible digital signal processor (~~DSP~~) according to claim 3, characterized in that a dedicated operation of said dedicated system is anyone of an interpolation operation, a decimation operation, a biquad filter operation, a Finite Impulse Response filter operation, a complex to real operation inversion operation and a real to complex inversion operation.

5. (currently amended): A digital subscriber line system that comprises a digital front-end system (~~DFE-XDSL~~), characterized in that said digital front-end system (~~DFE-XDSL~~) comprises one or more flexible digital signal processors (~~DSP~~) according to claim 1.

6. (currently amended): A method to execute at least one dedicated operation of a dedicated system (~~DFE-XDSL~~) by a digital signal processor (~~DSP~~), characterized in that said method comprises:

receiving input data (~~DATA-IN~~) by a plurality of inputs (~~IN~~) coupled to a predefined plurality of interconnected basic operators (~~OP1, OP2, OP3, OP4, OP5, OP6, OP7~~) of an arithmetic logical unit (~~ALU~~) of said flexible digital signal processor (~~DSP~~); and for at least one phase of a control program of a program controller (~~CTRL~~):

activating via a plurality of control inputs (~~IN-CTRL~~) being coupled between said predefined plurality of basic operators (~~OP1, OP2, OP3, OP4, OP5, OP6, OP7~~) and said program controller (~~CTRL~~), under control of an actual phase of said control program, one or more basic operators (~~OP1, OP2, OP3, OP6~~) of said predefined plurality of basic operators (~~OP1, OP2, OP3, OP4, OP5, OP6, OP7~~); and

executing on said received input data (~~DATA-IN~~) one or more basic operations by said one or more activated basic operators of said dedicated system (~~DFE-XDSL~~); and

realizing each phase of said at least one phase of said control program and generating thereby an output data (~~DATA-OUT~~) representing a result of said execution of said at least one dedicated operation of said dedicated system (~~DFE-XDSL~~).